



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-237



Global Broadcast Service (GBS)

As of FY 2016 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

Global Broadcast Service (GBS)

DoD Component

Air Force

Joint Participants

Army; Navy; Marine Corps

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References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated November 14, 1997

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated September 15, 2006

Mission and Description

The Global Broadcast Service (GBS) is an extension of the Global Information Grid that provides worldwide, high capacity, one-way transmission of video (especially from Unmanned Aerial Vehicles), imagery and geospatial intelligence products, and other high-bandwidth information supporting the nation's command centers and joint combat forces in garrison, in transit, and deployed within global combat zones. It employs readily available satellite-based commercial technologies that are relatively inexpensive and easily integrated into existing systems and processes, yet are not so unwieldy as to be unusable by smaller and more mobile units. To this end, GBS currently uses broadcast payloads on two Ultra-High Frequency Follow-On (UFO) satellites, leased commercial satellite transponders, and the Wideband Global SATCOM constellation.

Theater Injection Point terminals provide a deployable Ka-band uplink capability that can operate directly from a Combatant Commander's (CCDR's) Area of Responsibility. Information sources deliver products for daily broadcast via Defense Enterprise Computing Centers (DECCs) operated by the Defense Information Systems Agency (DISA). Content is based on defined mission profiles approved by the CCDR's Theater Information Managers (TIMs). The GBS Operations Center provides broadcast planning and coordinates beam movement as well as 24/7/365 support to users worldwide.

Executive Summary

The GBS continues to provide critical information to the warfighter with little to no delay. News, weather, classified and unclassified imagery, and other products are now being delivered via the new broadcast architecture that was established on the Acquisition Category III GBS Defense Enterprise Computing Center Transition program. Responsibility for the new broadcast transitioned from acquisition personnel to Operations, Maintenance and Sustainment organizations on January 31, 2014.

The GBS Operations Center (GBSOC) manages an increasing number of Unmanned Aerial Vehicle (UAV) feeds and other broadcast functions critical to the warfighter mission. A specific example is the GBSOC supported Yemen Yukon Viking operations; delivering real-time UAV video to Combatant Commands (COCOMs) leading to elimination of many terrorists/targets. Further, the GBSOC supported ever increasing demand for war-time products in support of the air campaign against Islamic State of Iraq and the Levant. The GBSOC also performed tailored broadcast management functions enabling the USS America to maintain GBS connectivity while going around South America.

The GBS Sustainment Team began an Operating System (OS) upgrade effort for legacy receive suites currently in the field. The existing OS, Microsoft Windows XP, reached end-of-life on April 8, 2014 and will no longer be supported with cyber security patches by the vendor after December 2016. Delays in fielding new receive suite equipment, highlighted below, have created a potential operational risk. This OS upgrade effort provides a cost effective functional solution that will satisfy cyber security requirements and allow continued operations without the risk of an unsupported operating system until new receive suite equipment can be fielded.

In December 2006 a Program Decision Memorandum (PDM) from the Deputy Secretary of Defense directed the Air Force to implement transmission security (TRANSEC) into GBS via the Joint Internet Protocol Modem (JIPM). The JIPM was to be developed by the Defense Information Systems Agency (DISA) and would be available for implementation and integration into GBS products. In July 2014 the JIPM program experienced issues during Confidence Testing of broadcast-related JIPM equipment. On November 13, 2014, the acting DoD Chief Information Officer (CIO) issued a redirection to the JIPM acquisition strategy by cancelling the proposed ViaSat solution and redirecting DISA, with support from the Services, to develop a Commercial Off-the-shelf (COTS) solution incorporating TRANSEC. Cost and schedule impacts are expected due to this change.

The GBS program office is proceeding with a non-TRANSEC solution that addresses hardware and software obsolescence issues and vulnerabilities, enables continued fielding of new receive suite products that are currently on contract, upgrades Theatre Injection Points (GBS's transportable broadcast capability), achieves operational acceptance, and transitions the program to sustainment. The program office will continue to support the DoD effort to develop a replacement TRANSEC solution. Once a replacement and adequate resources are identified, the fielded systems can be retrofitted in sustainment.

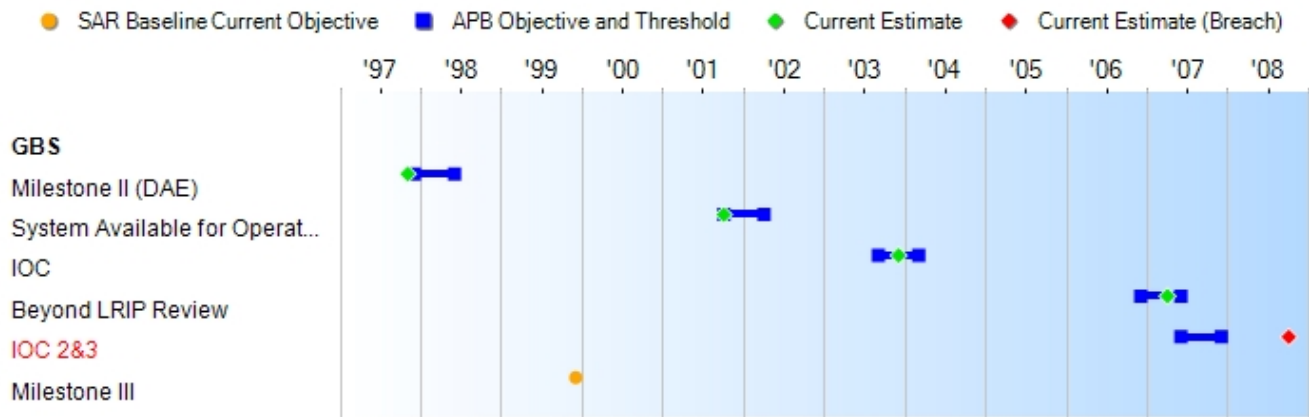
There are no significant software-related issues with this program at this time.

Threshold Breaches

APB Breaches			Explanation of Breach
Schedule		<input checked="" type="checkbox"/>	The schedule and the total procurement cost breaches shown here were reported in the December 2010 SAR.
Performance		<input type="checkbox"/>	
Cost	RDT&E	<input type="checkbox"/>	
	Procurement	<input checked="" type="checkbox"/>	
	MILCON	<input type="checkbox"/>	
	Acq O&M	<input type="checkbox"/>	
O&S Cost		<input type="checkbox"/>	
Unit Cost	PAUC	<input type="checkbox"/>	
	APUC	<input type="checkbox"/>	

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate
Milestone II (DAE)	Dec 1997	Dec 1997	Jun 1998	Nov 1997
System Available for Operational Use	Jun 1999	Oct 2001	Apr 2002	Oct 2001
IOC	Dec 1999	Sep 2003	Mar 2004	Dec 2003
Beyond LRIP Review	N/A	Dec 2006	Jun 2007	Apr 2007
IOC 2&3	N/A	Jun 2007	Dec 2007	Oct 2008 ¹
Milestone III	Dec 1999	N/A	N/A	N/A

¹ APB Breach

Change Explanations

None

Notes

An incremental IOC approach was approved by the JROC memo 111-00, dated June 27, 2000. GBS Phase II requirements are grouped into IOC 1, 2 and 3. The following summarizes the threshold requirements associated with each IOC:

IOC 1:

- PIPs operational on UFO satellites 8, 9, 10.
- Full Satellite Broadcast Manager capability.
- Field 20% of JPO Receive Suites (19 units).
- Personnel training in operations and maintenance of fielded equipment.
- Logistically support the system to effectively sustain GBS.
- Independently assess system capabilities.
- Augment UFO GBS with leased commercial satellite services to cover gaps over CONUS.
- Demonstrate smart push and user pull capability.

(Note: IOC 1 is based on the performance of the currently fielded ATM based system.)

IOC 2:

- Field 90% of JPO Receive Suites (86 units).
- Provide classified video capability.
- Remote Receive Suite enable/disable.

IOC 3:

- Tactically suitable Ground Receive Suite (two-person lift).
- Protect all information from exploitation.

Acronyms and Abbreviations

ATM - Asynchronous Transfer Mode
CONUS - Continental United States
JPO - Joint Program Office
PIP - Primary Injection Point
UFO - Ultra High Frequency Follow-On

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold	Demonstrated Performance	Current Estimate	
System Coverage				
65 deg South to 65 deg North	65 deg South to 65 deg North	65 deg South to 65 deg North	65 deg South to 65 deg North	65 deg South to 65 deg North
Space Segment Resources				
N/A	WGS with UFO GBS	WGS with UFO GBS	WGS with UFO GBS	WGS with UFO GBS
Spot Beams				
Two 500nm steerable, one 2000 nm steerable	Two 500nm steerable, one 2000 nm steerable	Two 500nm steerable, One 2000 nm steerable	Two 500nm steerable, One 2000 nm steerable	Two 500nm steerable, One 2000 nm steerable
Simultaneous Uplinks				
One PIP and up to 3 TIPs simultan-eously	One PIP and up to 3 TIPs simultan-eously	One PIP and one TIP	One PIP and one TIP	One PIP and one TIP
Security				
Pass unclassified to TS/SCI traffic	Pass unclassified to TS/SCI traffic	Pass unclassified to TS/SCI traffic	Pass unclassified to TS/SCI traffic	Pass unclassified to TS/SCI traffic
Receive Frequency Band				
20.2-21. 2 GHz UFO GBS, one or more commercial satellite frequency bands	N/A	N/A	N/A	N/A
Support operations with multiple satellite beams and terminal types (i.e., Receive Variable Data Rates)				
2000nm: add SSRS and ART 500nm: add ART	2000nm: add SSRS and ART 500nm: Add ART	2000nm: FGRS, TGRS and SRS 500nm: FGRS, TGRS, SRS and SSRS	2000nm: FGRS, TGRS and SRS 500nm: FGRS, TGRS, SRS and SSRS	2000nm: FGRS, TGRS and SRS 500nm: FGRS, TGRS, SRS and SSRS
Pointing of Steerable Spot Beam Antenna				
Frequent	Frequent	Frequent	Frequent	Frequent
Steerable Antenna Tasking				
SBM Primary means	SBM Primary Means	SBM Primary Means	SBM Primary Means	SBM Primary Means
Interoperability				
N/A	100% IERs	100% critical IERs	100% IERs satisfied	100% IERs satisfied

	satisfied	satisfied			
Network Ready					
N/A	TBD	TBD	Certification granted May 16, 2013	Certification granted May 16, 2013	(Ch-1)

Requirements Reference

Operational Requirements Document (ORD) dated January 12, 2005

Change Explanations

(Ch-1) The Demonstrated Performance and Current Estimate for Network Ready was updated to acknowledge a Joint Staff Memorandum for United States Air Force, dated May 16, 2013, that granted full Net-Ready KPP certification of the GBS program. With this certification, all Performance Characteristics have been fulfilled.

Acronyms and Abbreviations

ART - Airborne Receive Terminal
 deg - Degrees
 FGRS - Fixed Ground Receive Suite/Terminal
 GHz - Gigahertz
 IERs - Information Exchange Requirements
 nm - Nautical Miles
 PIP - Primary Injection Point
 SBM - Satellite Broadcast Manager
 SRS - Shipboard Receive Suite/Terminal
 SSRS - SubSurface (submarine) Receive Suite/Terminal
 TGRS - Transportable Ground Receive Suite/Terminal
 TIP - Theater Injection Point
 TS/SCI - Top Secret/Sensitive Compartmented Information
 UFO - Ultra High Frequency Follow-on Satellite
 WGS - Wideband Global SATCOM

Track to Budget

RDT&E			
Appn	BA	PE	
Air Force	3600	07	0303601F
	Project		Name
	2487	MILSATCOM Space (Shared) (Sunk)	
Air Force	3600	05	0603840F
	Project		Name
	4887	Global Broadcast Service (Shared) (Sunk)	
Air Force	3600	04	0603854F
	Project		Name
	2679	Global Broadcast Service 1 & 2 (Sunk)	
Air Force	3600	04	0604775F
	Project		Name
	6004	Defense Rapid Innovation Program (Shared) (Sunk)	
Procurement			
Appn	BA	PE	
Navy	1109	04	0206313M
	Line Item		Name
	4633	Radio Systems (Shared)	
Navy	1810	02	0303109N
	Line Item		Name
	3215	Satellite Communications Systems (Shared)	
Army	2035	02	0310703A
	Line Item		Name
	BC4120	GBS (Shared)	
Air Force	3080	03	0303601F
	Line Item		Name
	836780	MILSATCOM Space (Shared)	
Defense-Wide	0350	02	0505001D
	Line Item		Name
	21005	Misc Equipment - Army National Guard (Shared) (Sunk)	

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 1997 \$M			BY 1997 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	397.5	423.5	465.9	396.6	439.2	450.5	419.4
Procurement	53.9	361.3	397.4	546.9 ¹	57.9	412.3	676.0
Flyaway	--	--	--	524.2	--	--	648.9
Recurring	--	--	--	367.8	--	--	453.0
Non Recurring	--	--	--	156.4	--	--	195.9
Support	--	--	--	22.7	--	--	27.1
Other Support	--	--	--	5.4	--	--	5.6
Initial Spares	--	--	--	17.3	--	--	21.5
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	451.4	784.8	N/A	943.5	497.1	862.8	1095.4

¹ APB Breach

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	221	136	136
Procurement	125	1085	1878
Total	346	1221	2014

Quantity Notes

The RDT&E quantity of 136 is comprised of 10 First Generation Increment One (I1E) Air Force Receive Suites (RS), 27 I1E Shipboard RS, 96 Joint Program Office funded Air Force RS, and 3 Primary Injection Points (PIPs).

The Procurement quantity includes 3 Army Theater Injection Points (TIPs) and 2 Air Force TIPs; all others are RS.

The quantity increase of 99 receive suites on the following page breaks out as follows:

87 - increase in Air Force (APPN 3080) receive suites results from receipt of Overseas Contingency Operations funds

12 - increase in Navy (APPN 1810) receive suites results from receipt of \$11.4M in FY 2014 - 2020

99 - total increase from prior SAR

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	419.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	419.4
Procurement	581.6	44.4	24.9	11.8	5.0	5.0	3.3	0.0	676.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	1001.0	44.4	24.9	11.8	5.0	5.0	3.3	0.0	1095.4
PB 2015 Total	994.6	24.7	22.9	11.2	6.4	8.0	0.0	0.0	1067.8
Delta	6.4	19.7	2.0	0.6	-1.4	-3.0	3.3	0.0	27.6

Funding Notes

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	136	0	0	0	0	0	0	0	0	136
Production	0	1688	119	25	15	7	12	12	0	1878
PB 2016 Total	136	1688	119	25	15	7	12	12	0	2014
PB 2015 Total	136	1710	5	28	15	7	14	0	0	1915
Delta	0	-22	114	-3	0	0	-2	12	0	99

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1996	--	--	--	--	--	--	14.0
1997	--	--	--	--	--	--	37.9
1998	--	--	--	--	--	--	70.2
1999	--	--	--	--	--	--	64.3
2000	--	--	--	--	--	--	41.1
2001	--	--	--	--	--	--	31.6
2002	--	--	--	--	--	--	34.0
2003	--	--	--	--	--	--	20.8
2004	--	--	--	--	--	--	35.8
2005	--	--	--	--	--	--	21.8
2006	--	--	--	--	--	--	17.9
2007	--	--	--	--	--	--	23.1
2008	--	--	--	--	--	--	0.5
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	1.8
2011	--	--	--	--	--	--	4.6
Subtotal	136	--	--	--	--	--	419.4

Annual Funding							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 1997 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1996	--	--	--	--	--	--	14.1
1997	--	--	--	--	--	--	37.7
1998	--	--	--	--	--	--	69.4
1999	--	--	--	--	--	--	62.9
2000	--	--	--	--	--	--	39.6
2001	--	--	--	--	--	--	30.0
2002	--	--	--	--	--	--	32.0
2003	--	--	--	--	--	--	19.3
2004	--	--	--	--	--	--	32.4
2005	--	--	--	--	--	--	19.2
2006	--	--	--	--	--	--	15.3
2007	--	--	--	--	--	--	19.3
2008	--	--	--	--	--	--	0.4
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	1.4
2011	--	--	--	--	--	--	3.6
Subtotal	136	--	--	--	--	--	396.6

The RDT&E funds starting in FY 2010 are associated with terminal (receive suite) functionality. Of the \$6.4M TY\$s, \$5.3M is sourced from PE 0303601F and \$1.1M is sourced from PE 0604775F. The funds are associated with portable receive suite development.

Annual Funding 2035 Procurement Other Procurement, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1998	1	3.0	--	2.2	5.2	2.1	7.3
1999	8	4.3	--	--	4.3	1.5	5.8
2000	17	9.4	--	4.0	13.4	1.5	14.9
2001	--	--	--	--	--	0.2	0.2
2002	27	7.6	--	--	7.6	0.8	8.4
2003	13	4.9	--	--	4.9	1.0	5.9
2004	24	13.6	--	0.3	13.9	0.1	14.0
2005	1	12.2	--	--	12.2	1.2	13.4
2006	59	12.1	--	--	12.1	1.0	13.1
2007	62	16.7	--	--	16.7	1.2	17.9
2008	332	46.6	--	--	46.6	3.5	50.1
2009	188	34.4	--	--	34.4	3.3	37.7
2010	4	0.5	--	6.3	6.8	--	6.8
2011	--	--	--	4.6	4.6	--	4.6
2012	177	51.3	--	--	51.3	0.5	51.8
2013	89	21.7	--	--	21.7	3.0	24.7
2014	--	--	--	10.2	10.2	--	10.2
2015	--	--	--	18.9	18.9	--	18.9
2016	--	--	--	6.3	6.3	--	6.3
2017	--	--	--	2.4	2.4	--	2.4
Subtotal	1002	238.3	--	55.2	293.5	20.9	314.4

Annual Funding 2035 Procurement Other Procurement, Army							
Fiscal Year	Quantity	BY 1997 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1998	1	2.9	--	2.1	5.0	2.1	7.1
1999	8	4.1	--	--	4.1	1.5	5.6
2000	17	9.0	--	3.7	12.7	1.5	14.2
2001	--	--	--	--	--	0.2	0.2
2002	27	7.1	--	--	7.1	0.7	7.8
2003	13	4.5	--	--	4.5	0.9	5.4
2004	24	12.1	--	0.3	12.4	0.1	12.5
2005	1	10.6	--	--	10.6	1.0	11.6
2006	59	10.2	--	--	10.2	0.9	11.1
2007	62	13.8	--	--	13.8	1.0	14.8
2008	332	37.8	--	--	37.8	2.9	40.7
2009	188	27.5	--	--	27.5	2.7	30.2
2010	4	0.4	--	4.9	5.3	--	5.3
2011	--	--	--	3.6	3.6	--	3.6
2012	177	39.0	--	--	39.0	0.4	39.4
2013	89	16.1	--	--	16.1	2.3	18.4
2014	--	--	--	7.4	7.4	--	7.4
2015	--	--	--	13.6	13.6	--	13.6
2016	--	--	--	4.5	4.5	--	4.5
2017	--	--	--	1.7	1.7	--	1.7
Subtotal	1002	195.1	--	41.8	236.9	18.2	255.1

Annual Funding								
1109 Procurement Procurement, Marine Corps								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2004	--	--	--	2.4	2.4	--	2.4	
2005	48	5.7	--	--	5.7	--	5.7	
2006	20	3.1	--	3.4	6.5	--	6.5	
2007	--	--	--	0.1	0.1	--	0.1	
2008	--	--	--	2.4	2.4	--	2.4	
2009	--	--	--	0.7	0.7	--	0.7	
2010	16	2.4	--	--	2.4	--	2.4	
2011	--	--	--	--	--	--	--	
2012	--	--	--	--	--	--	--	
2013	3	0.3	--	--	0.3	--	0.3	
2014	5	0.6	--	1.0	1.6	--	1.6	
2015	2	0.2	--	0.9	1.1	--	1.1	
2016	--	--	--	0.6	0.6	--	0.6	
2017	--	--	--	1.7	1.7	--	1.7	
2018	--	--	--	1.7	1.7	--	1.7	
2019	--	--	--	1.8	1.8	--	1.8	
Subtotal	94	12.3	--	16.7	29.0	--	29.0	

Annual Funding								
1109 Procurement Procurement, Marine Corps								
Fiscal Year	Quantity	BY 1997 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2004	--	--	--	2.1	2.1	--	2.1	
2005	48	4.9	--	--	4.9	--	4.9	
2006	20	2.6	--	2.8	5.4	--	5.4	
2007	--	--	--	0.1	0.1	--	0.1	
2008	--	--	--	1.9	1.9	--	1.9	
2009	--	--	--	0.6	0.6	--	0.6	
2010	16	1.9	--	--	1.9	--	1.9	
2011	--	--	--	--	--	--	--	
2012	--	--	--	--	--	--	--	
2013	3	0.2	--	--	0.2	--	0.2	
2014	5	0.4	--	0.8	1.2	--	1.2	
2015	2	0.1	--	0.7	0.8	--	0.8	
2016	--	--	--	0.4	0.4	--	0.4	
2017	--	--	--	1.2	1.2	--	1.2	
2018	--	--	--	1.2	1.2	--	1.2	
2019	--	--	--	1.2	1.2	--	1.2	
Subtotal	94	10.1	--	13.0	23.1	--	23.1	

Annual Funding								
3080 Procurement Other Procurement, Air Force								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2000	5	2.9	--	--	2.9	--	2.9	
2001	16	4.5	--	--	4.5	--	4.5	
2002	28	6.7	--	--	6.7	--	6.7	
2003	6	1.0	--	13.8	14.8	--	14.8	
2004	88	19.1	--	--	19.1	0.1	19.2	
2005	2	12.1	--	--	12.1	0.1	12.2	
2006	65	13.1	--	--	13.1	0.1	13.2	
2007	--	--	--	0.7	0.7	--	0.7	
2008	--	--	--	1.1	1.1	--	1.1	
2009	2	1.7	--	--	1.7	--	1.7	
2010	10	1.4	--	4.9	6.3	0.5	6.8	
2011	22	10.1	--	9.9	20.0	0.7	20.7	
2012	2	0.4	--	11.1	11.5	0.1	11.6	
2013	--	--	--	10.7	10.7	--	10.7	
2014	32	5.5	--	3.7	9.2	0.2	9.4	
2015	115	19.5	--	3.3	22.8	--	22.8	
2016	--	--	--	1.7	1.7	--	1.7	
Subtotal	393	98.0	--	60.9	158.9	1.8	160.7	

Annual Funding 3080 Procurement Other Procurement, Air Force							
Fiscal Year	Quantity	BY 1997 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2000	5	2.7	--	--	2.7	--	2.7
2001	16	4.2	--	--	4.2	--	4.2
2002	28	6.1	--	--	6.1	--	6.1
2003	6	0.9	--	12.8	13.7	--	13.7
2004	88	17.3	--	--	17.3	0.1	17.4
2005	2	10.7	--	--	10.7	0.1	10.8
2006	65	11.2	--	--	11.2	0.1	11.3
2007	--	--	--	0.6	0.6	--	0.6
2008	--	--	--	0.9	0.9	--	0.9
2009	2	1.4	--	--	1.4	--	1.4
2010	10	1.1	--	3.9	5.0	0.4	5.4
2011	22	7.9	--	7.8	15.7	0.5	16.2
2012	2	0.3	--	8.5	8.8	0.1	8.9
2013	--	--	--	8.1	8.1	--	8.1
2014	32	4.1	--	2.8	6.9	0.1	7.0
2015	115	14.3	--	2.5	16.8	--	16.8
2016	--	--	--	1.2	1.2	--	1.2
Subtotal	393	82.2	--	49.1	131.3	1.4	132.7

Annual Funding 1810 Procurement Other Procurement, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1997	11	0.6	--	--	0.6	--	0.6
1998	--	--	--	--	--	--	--
1999	20	4.2	--	--	4.2	--	4.2
2000	8	0.8	--	--	0.8	--	0.8
2001	13	1.1	--	--	1.1	--	1.1
2002	16	2.1	--	--	2.1	--	2.1
2003	--	--	--	5.5	5.5	--	5.5
2004	--	--	--	19.3	19.3	--	19.3
2005	--	--	--	7.9	7.9	--	7.9
2006	--	--	--	2.7	2.7	--	2.7
2007	2	0.9	--	--	0.9	--	0.9
2008	1	1.8	--	--	1.8	--	1.8
2009	10	13.9	--	11.8	25.7	0.4	26.1
2010	13	4.3	--	2.7	7.0	--	7.0
2011	20	7.7	--	2.8	10.5	0.3	10.8
2012	10	3.9	--	0.5	4.4	0.1	4.5
2013	10	13.0	--	--	13.0	--	13.0
2014	10	5.4	--	0.2	5.6	0.3	5.9
2015	2	0.7	--	0.9	1.6	--	1.6
2016	25	10.3	--	5.6	15.9	0.4	16.3
2017	15	5.2	--	2.3	7.5	0.2	7.7
2018	7	2.2	--	0.9	3.1	0.2	3.3
2019	12	3.0	--	--	3.0	0.2	3.2
2020	12	3.0	--	--	3.0	0.3	3.3
Subtotal	217	84.1	--	63.1	147.2	2.4	149.6

Annual Funding 1810 Procurement Other Procurement, Navy							
Fiscal Year	Quantity	BY 1997 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1997	11	0.6	--	--	0.6	--	0.6
1998	--	--	--	--	--	--	--
1999	20	4.1	--	--	4.1	--	4.1
2000	8	0.8	--	--	0.8	--	0.8
2001	13	1.0	--	--	1.0	--	1.0
2002	16	2.0	--	--	2.0	--	2.0
2003	--	--	--	5.0	5.0	--	5.0
2004	--	--	--	17.2	17.2	--	17.2
2005	--	--	--	6.8	6.8	--	6.8
2006	--	--	--	2.3	2.3	--	2.3
2007	2	0.7	--	--	0.7	--	0.7
2008	1	1.5	--	--	1.5	--	1.5
2009	10	11.1	--	9.4	20.5	0.3	20.8
2010	13	3.4	--	2.1	5.5	--	5.5
2011	20	5.9	--	2.2	8.1	0.2	8.3
2012	10	3.0	--	0.3	3.3	0.1	3.4
2013	10	9.7	--	--	9.7	--	9.7
2014	10	4.0	--	0.1	4.1	0.2	4.3
2015	2	0.5	--	0.7	1.2	--	1.2
2016	25	7.3	--	4.0	11.3	0.3	11.6
2017	15	3.6	--	1.7	5.3	0.1	5.4
2018	7	1.5	--	0.7	2.2	0.1	2.3
2019	12	2.0	--	--	2.0	0.1	2.1
2020	12	2.0	--	--	2.0	0.2	2.2
Subtotal	217	64.7	--	52.5	117.2	1.6	118.8

Annual Funding							
0350 Procurement National Guard and Reserve Equipment ,Defense							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2011	172	20.3	--	--	20.3	2.0	22.3
Subtotal	172	20.3	--	--	20.3	2.0	22.3

Annual Funding							
0350 Procurement National Guard and Reserve Equipment ,Defense							
Fiscal Year	Quantity	BY 1997 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2011	172	15.7	--	--	15.7	1.5	17.2
Subtotal	172	15.7	--	--	15.7	1.5	17.2

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	11/14/1997	6/21/2006
Approved Quantity	500	628
Reference	Milestone II ADM	LRIP ADM
Start Year	1997	1997
End Year	1999	2007

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the following:

Milestone II ADM, dated November 1997, approved the GBS Phase II entry into EMD and an LRIP of up to 500 Receive Suites (RS) and 140 shipboard antennas.

A USD(AT&L) ADM, dated June 2006, authorized an LRIP increase of 128 RS to an approved quantity of 628.

On April 13, 2007, the USD(AT&L) signed an ADM that authorized the Joint Program Office (JPO) to procure Beyond LRIP quantities of RS.

Foreign Military Sales

None

Nuclear Costs

None

Unit Cost

Unit Cost Report

Item	BY 1997 \$M	BY 1997 \$M	% Change
	Current UCR Baseline (Sep 2006 APB)	Current Estimate (Dec 2014 SAR)	

Program Acquisition Unit Cost

Cost	784.8	943.5	
Quantity	1221	2014	
Item	0.643	0.468	-27.22

Average Procurement Unit Cost

Cost	361.3	546.9	
Quantity	1085	1878	
Unit Cost	0.333	0.291	-12.61

Item	BY 1997 \$M	BY 1997 \$M	% Change
	Original UCR Baseline (Nov 1997 APB)	Current Estimate (Dec 2014 SAR)	

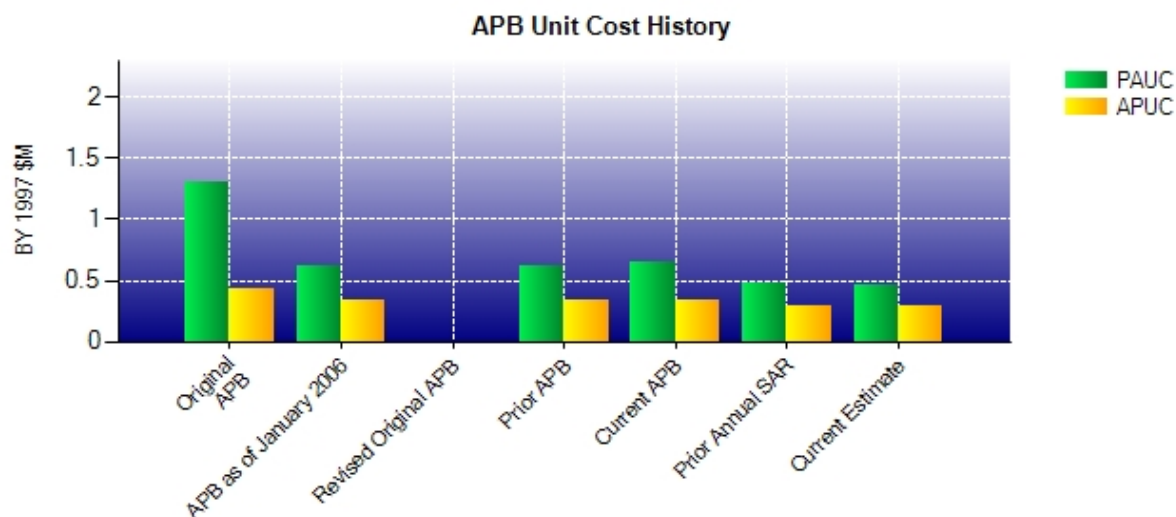
Program Acquisition Unit Cost

Cost	451.4	943.5	
Quantity	346	2014	
Unit Cost	1.305	0.468	-64.14

Average Procurement Unit Cost

Cost	53.9	546.9	
Quantity	125	1878	
Unit Cost	0.431	0.291	-32.48

Unit Cost History



Item	Date	BY 1997 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Nov 1997	1.305	0.431	1.437	0.463
APB as of January 2006	Feb 2003	0.614	0.333	0.673	0.380
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Feb 2003	0.614	0.333	0.673	0.380
Current APB	Sep 2006	0.643	0.333	0.707	0.380
Prior Annual SAR	Dec 2013	0.482	0.296	0.558	0.364
Current Estimate	Dec 2014	0.468	0.291	0.544	0.360

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1.437	-0.004	-0.969	0.041	0.074	-0.046	0.000	0.011	-0.893	0.544

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.463	0.004	-0.193	0.044	0.044	-0.013	0.000	0.011	-0.103	0.360

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone I	N/A	N/A	N/A	N/A
Milestone II	N/A	Dec 1997	N/A	Nov 1997
Milestone III	N/A	Dec 1999	N/A	N/A
IOC	N/A	Dec 1999	N/A	Dec 2003
Total Cost (TY \$M)	N/A	497.1	N/A	1095.4
Total Quantity	N/A	346	N/A	2014
PAUC	N/A	1.437	N/A	0.544

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	439.2	57.9	--	497.1
Previous Changes				
Economic	-14.5	+7.4	--	-7.1
Quantity	-2.7	+433.6	--	+430.9
Schedule	--	+76.9	--	+76.9
Engineering	+65.6	+76.7	--	+142.3
Estimating	-68.2	-25.0	--	-93.2
Other	--	--	--	--
Support	--	+20.9	--	+20.9
Subtotal	-19.8	+590.5	--	+570.7
Current Changes				
Economic	--	-0.7	--	-0.7
Quantity	--	+13.5	--	+13.5
Schedule	--	+6.4	--	+6.4
Engineering	--	+6.4	--	+6.4
Estimating	--	+1.4	--	+1.4
Other	--	--	--	--
Support	--	+0.6	--	+0.6
Subtotal	--	+27.6	--	+27.6
Total Changes	-19.8	+618.1	--	+598.3
Current Estimate	419.4	676.0	--	1095.4

Summary BY 1997 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	397.5	53.9	--	451.4
Previous Changes				
Economic	--	--	--	--
Quantity	-2.6	+360.4	--	+357.8
Schedule	--	+59.8	--	+59.8
Engineering	+57.0	+61.3	--	+118.3
Estimating	-55.3	-26.6	--	-81.9
Other	--	--	--	--
Support	--	+17.2	--	+17.2
Subtotal	-0.9	+472.1	--	+471.2
Current Changes				
Economic	--	--	--	--
Quantity	--	+9.8	--	+9.8
Schedule	--	+4.6	--	+4.6
Engineering	--	+4.6	--	+4.6
Estimating	--	+1.8	--	+1.8
Other	--	--	--	--
Support	--	+0.1	--	+0.1
Subtotal	--	+20.9	--	+20.9
Total Changes	-0.9	+493.0	--	+492.1
Current Estimate	396.6	546.9	--	943.5

Previous Estimate: December 2013

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.7
Quantity variance resulting from an increase of 12 receive suites from 205 to 217 (Navy). (Subtotal)	+2.1	+3.2
Quantity variance resulting from an increase of 12 receive suites from 205 to 217 (Navy). (Quantity)	(+1.2)	(+1.8)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+0.5)	(+0.8)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+0.5)	(+0.8)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-0.1)	(-0.2)
Quantity variance resulting from an increase of 87 receive suites from 306 to 393 (Air Force). (Subtotal)	+15.5	+21.1
Quantity variance resulting from an increase of 87 receive suites from 306 to 393 (Air Force). (Quantity)	(+8.6)	(+11.7)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+4.1)	(+5.6)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+4.1)	(+5.6)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-1.3)	(-1.8)
Additional funding allocated for test (Army). (Estimating)	+3.3	+4.9
Additional funding received (FY 2012 to FY 2014) to support operational testing activities (Air Force). (Estimating)	+3.3	+4.1
Net adjustments in appropriation funding (FY 2016 to FY 2019) to reflect FY 2016 PB (Air Force). (Estimating)	-9.3	-13.5
Funding received for program support costs from FY 2014 to FY 2020 (Navy). (Estimating)	+5.6	+7.7
Adjustment for current and prior escalation. (Estimating)	+0.2	+0.1
Adjustment for current and prior escalation. (Estimating)	+0.1	+0.1
Adjustment for current and prior escalation. (Support)	0.0	+0.1
Decrease in Initial Spares (Air Force). (Support)	-0.1	-0.1
Increase in Initial Spares (Navy). (Support)	+0.2	+0.6
Procurement Subtotal	+20.9	+27.6

(QR) Quantity Related

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: Transportable Ground Receive Suite Production
Contractor: GENERAL DYNAMICS C4 SYSTEMS, INC.
Contractor Location: 400 JOHN QUINCY ADAMS RD
 TAUNTON, MA 02780-1036
Contract Number: FA8307-11-D-0005
Contract Type: Firm Fixed Price (FFP)
Award Date: August 22, 2011
Definitization Date: August 22, 2011

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
8.7	N/A	4	40.2	N/A	283	40.2	40.2

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to ordering of new Receive Suites and new Receive Broadcast Managers to replace equipment currently fielded.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Notes

This contract has a \$900M ceiling. Current orders total \$40.2M. The contract includes pre-negotiated pricing tables that extend through FY 2015. Future contract modifications will extend the pricing tables through FY 2020. The Estimated Price at Completion depends on the future orders placed by all services.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	136	136	136	100.00%
Production	1361	1363	1878	72.58%
Total Program Quantity Delivered	1497	1499	2014	74.43%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	1095.4	Years Appropriated	20
Expended to Date	926.7	Percent Years Appropriated	80.00%
Percent Expended	84.60%	Appropriated to Date	1045.4
Total Funding Years	25	Percent Appropriated	95.44%

The above data is current as of February 05, 2015.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	February 20, 2015
Source of Estimate:	POE
Quantity to Sustain:	2005
Unit of Measure:	Total Quantity
Service Life per Unit:	17.00 Years
Fiscal Years in Service:	FY 2014 - FY 2031

Assets include: Broadcast facilities, Receive Suites (RS), and Theater Injection Points (TIP). The costs include all Depot Level Repairables (DLR) costs for GBS assets as well as the operating, logistics and personnel support costs associated with operating the transmit sites.

The February 20, 2015 O&S cost estimate assumes one primary and one secondary broadcast facility located at two Defense Enterprise Computing Centers, two Primary Injection Points (PIP), five TIPs (Army and Air Force Assets), and a total of 1,996 Receive Suites (RS) for all configurations and for all services. Of these, 123 were procured and fielded using RDT&E funds, and 1873 purchased with procurement funds. Sustained assets totals 2005. This varies from the total quantity of 2014 for the following reasons: 10 development models were not used, one PIP site was decommissioned, and the two broadcast facilities were added.

The POE costs represent the sustainment of the GBS Defense Enterprise Computing Center (DECC) starting in 2014.

Sustainment Strategy

The GBS employs a two-level maintenance concept employing Operational level maintenance by the individual GBS RS users and normalized organic supply support and Depot repair for stock listed parts for the RS, while the DECC Satellite Broadcast Management (SBM) user equipment is currently fully supported through Contractor Logistics Support (CLS).

Ogden - Air Logistics Center is designated as the software depot, including license renewal, for GBS RS and DECC SBM software. While other major stakeholders for GBS sustainment include: System-level Product Support Management, 50th Space Communications Squadron, and Tobyhanna Army Depot.

Antecedent Information

No Antecedent

Annual O&S Costs BY1997 \$M			
Cost Element	GBS Average Annual Cost Per Total Quantity	None (Antecedent) N/A	
Unit-Level Manpower	0.000	0.000	
Unit Operations	9.975	0.000	
Maintenance	2.502	0.000	
Sustaining Support	2.561	0.000	
Continuing System Improvements	1.759	0.000	
Indirect Support	0.925	0.000	
Other	0.000	0.000	
Total	17.722	--	

Unit Operations encompasses all operations of the broadcast facilities, and license renewals.

Maintenance includes organic software maintenance, PIP hardware, and technical orders.

Sustaining Support encompasses sustaining engineering support costs for all GBS assets.

Continuing System Improvements includes engineering and other support required to address obsolescence issues and other changes driven by technology.

Indirect Support includes other maintenance support and travel.

Item	Total O&S Cost \$M			
	GBS			None (Antecedent)
	Current Development APB Objective/Threshold	Current Estimate		
Base Year	308.1	338.9	301.3	N/A
Then Year	382.5	N/A	481.9	N/A

The current APB dates from February 2003. The APB O&S estimate assumed O&S through FY 2015. The latest OSD inflation indices used for the current estimate indicate a higher rate of inflation than those used for the APB. The current estimate assumes O&S through FY 2031 but also assumes a lower annual cost than the APB. These factors explain the apparent discrepancy between BY\$ and TY\$ for the O&S costs.

Equation to Translate Annual Cost to Total Cost

Total O&S Costs = average annual cost x assumed life in years = \$17.722M x 17 = \$301.3M (BY\$)

O&S Cost Variance		
Category	BY 1997 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2014 SAR	284.2	
Programmatic/Planning Factors	119.3	Added seven years to time horizon
Cost Estimating Methodology	-102.2	Reassessment of average yearly cost

Cost Data Update	0.0
Labor Rate	0.0
Energy Rate	0.0
Technical Input	0.0
Other	0.0
Total Changes	17.1
Current Estimate	301.3

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 1997 \$M):

No disposal estimate at this time.